

# Cometary Cell C2003

## Images

**Aerogel Cell:** [C2003-01.jpg](#)  
[C2003\\_T1\\_20x.jpg](#)

**Cell History:** Cell C2003 was removed from the cometary grid on January 25, 2007 without incident. Cell transferred to White Sand remote storage facility as a posterity sample. In the flight tray, this tile was oriented vertically compared to most.

**Track Information:** The tile possesses numerous smaller tracks and is one of the tiles believed to contain many secondaries from a potential impact in to the Whipple Shield.

## Feature Images

## Allocation History

## Log Entries

**Note:** All track / features (e.g., T1) numbers assigned during the Level 3 scanning are to be considered “**Temporary**” and in do not relate to the “Official” track number that is assigned when a given features is extracted (e.g., Keystoned) from a tile. Abbreviations: EH – Entrance Hole, TP – Terminal Particle, MTW – Maximum Track / Bulb Width, TL – Track Length.

**Level 2** examination of C2003 was conducted on February 22, 2006. Nothing unusual or out of the ordinary reported.

## Level 3

**January 30, 2007**

**T.H. See & J. Warren**

### C2003

T.H. See and J. Warren. J. Warren removed the tile and mounted in the Level 3 fixture. Since C2003 was a vertical tile from the left side, the orientation in the Level 3 fixture does not match that of how the cell was oriented within the tray. The tile is rotated 90° clockwise within the fixture relative to the in-Tray orientation.

System alignment was check on the first depth profile and found to be off. System realigned and checked again at 12:30. Alignment good.

Commenced Depth Profiles of this tile @ 12:35.

Completed Depth Profiles @ 12:53.

Converted to Tracks by rotating the top of the tile 15° away from the scope and by removing the polarizer.

## Tracks

This tile is from the portion of the tray where the large number of clusters of tracks have been found so there are going to be a larger than average number of smaller tracks in this tile. I will not take detailed images of the Entrance Hole (EH) and Terminal Particle (TP) in many cases settling for a overall track image picture and getting what info I can from that image.

C2003-T1 – Due to fractures and such in the tile near this end, it is difficult to get an EH and TP image. As a result, I will only be acquiring an overall image of the track and measuring the overall length. Located ~ 3.2 mm x 3.7 mm with the tile in this orientation. Appears to have two styli. Track length of longest stylus is about 535  $\mu\text{m}$ . EH on the order of 32  $\mu\text{m}$ . MBW = 53  $\mu\text{m}$ .

C2003-T2 – Again, another smallish track. Only acquiring an overall image at 100x. Location of 3.8 x 8.8 mm. Appears to have at least two styli. EH of 16, MBW = 34, and track length of ~ 200  $\mu\text{m}$ . TPs present.

C2003-T3 – 5.8 x 11.7 mm. Small carrot Type A. EH = 12, MBW = 29, Track Length (TL) = 291  $\mu\text{m}$ .

C2003-T4 – Long, skinny, extremely narrow track. Very hard to see, poor image due to interference from the aerogel and the location near the left edge. Image acquired off center to help show feature. Located 3.9 x 12.8 mm. TL ~ 470  $\mu\text{m}$ . Small TP visible through right eyepiece only.

C2003-T5 – Similar to T4. Left end of tile is blocking camera from getting a good image of this feature. Located 3.6 x 14.2 mm. MBW ~ 30 and TL ~ 480  $\mu\text{m}$ .

C2003-T6 – Camera blocked by left end of tile. Small narrow track. 4.2 x 14.6 mm. Cannot image but appears to be on the order of 500  $\mu\text{m}$  at best. Small TP at end of track.

C2003-T7 – Nice, medium sized, Type B carrot. Location of 6.2 x 17.6 mm. EH = 55, MBW = 112  $\mu\text{m}$ . At least four (4) styli. TP at bottom of longest two styli cannot be determined from photo. TL = 1667  $\mu\text{m}$ .

Stopped for day.

**January 31, 2007**

**T.H. See**

### **C2003 (continued)**

Removed sample from sample cabinet and mounted on PSS.

C2003-T8 – Small Type A track toward rear of tile. 11.2 x 16.7 mm location. Only acquired overall image. Appears to be small TP. MBW = 18. TL = 220  $\mu\text{m}$ ; could be a bit longer. Hard to tell going through so much sample or aerogel.

C2003-T9 – Small Type A carrot. Located at 7.7 x 9.6 mm. EH = 11, MBW = 30, Bulb Length ~ 330  $\mu\text{m}$ . TL = 600  $\mu\text{m}$ .

C2003-T10 – Small Type A. 10.3 x 8.4 mm. TL = 665. MBW = 20. Small <5 µm TP.

C2003-T11 – Small Type A to the right of Track 10 near crack. TL = 30 µm.

C2003-T12 – Small Type A. 16.7 x 7.9 mm. TL = 450, MBW = 25 µm. Small TP = 7 µm.

C2003-T13 – Type A. Located 17.3 x 8 mm. TL 150 µm.

C2003-T14 – Type A. 18.4 x 8.3 mm. TL = 1090, MBW = 46, EH = 19, and TP ~ 5 µm.

C2003-T15 – Cylindrical track. No real stylus out the bottom. Located 17.8 x 12.1 mm. TL ~170 µm.

C2003-T16 – Type A. 18.6 x 12.1 mm. TL = 180 µm. TP < 5 µm.

C2003-T17 – Type A. Located 20.8 x 18.4 mm. TL = 660, MBW = 26, EH 12 µm. TP < 5 µm.

C2003-T18 – Type B. Located 27.3 x 19.6 mm. EH = 18.6, MBW = 62, TL = 750, 675, 415 µm for three styli.

C2003-T19 – Type A. 28 x 19.7 mm. TL = 500 µm.

C2003-T20 – Type A. 30.3 x 19.6 mm. EH = 37, MBW = 100. Bulb Length (BL) – 1140 µm. TL = 2500 µm. Top of bulb sheared off by crack in aerogel, although it is still present it is slightly offset to the left of the rest of the track.

C2003-T21 – Located 28.9 x 18.5 mm. TL = 425 µm.

C2003-T22 – Type A. Located 28.9 x 15.9 mm. TL = 685 µm.

C2003-T23 – Type A. Located 30.1 x 15.6 mm. TL = 580 µm.

C2003-T24 – Type B. Located 28.7 x 12.9 mm. TL = 680, BL = 335, MBW = 155, EH = 31 µm. Appears to be three TPs toward bottom of track. TP 1 = 146, TP 2 = 90 µm, TP 3 = 6 µm.

C2003-T25 – Type A. 26.7 x 12.7. Just of the left of T24. TL = 530, BL = 147, EH = 12, MBW = 30, TP = 10 to 12 µm.

C2003-T26 – Type A. Located 30.6 x 3.5 mm. TL = 563 µm. Small TP.

C2003-T27 - Type A. Located 30.8 x 3.5 mm. TL = 470 µm. Small TP.

C2003-T28 - Type A. Located 31.5 x 3.4 mm. TL = 797 µm. Small TP.

C2003-T29 - Type A. Located 31.8 x 2.9 mm. TL = 360 µm. Small TP.

C2003-T30 - Type A. Located 33.6 x 3.6 mm. TL = 445 µm. Small TP.

C2003-T31 – Type A. Located far right end of tile. 38.2 x 4.3 mm. MBW = 18 µm. TL = 240 µm.

C2003-T32 – Type A. 38 x 4.1 mm. TL = 318  $\mu\text{m}$ .

C2003-T33 – Type A. 37.7 x 4.2 mm. TL = 221  $\mu\text{m}$

C2003-T34 – Type A. 37.5 x 4.2 mm. TL = 268  $\mu\text{m}$

C2003-T35 – Type A. 37.4 x 4.1 mm. TL = 54  $\mu\text{m}$

C2003-T36 – Type A. 34.4 x 19.8 mm. TL = 1669  $\mu\text{m}$ . MBW = 50  $\mu\text{m}$ . Hard to see due to fractures and such in the tile at this end.

Switch light to Flat Panel backlight. Acquired 7x top mosaics and 20x Top Mosaic images.

Completed Level 3 on this tile at ~11: 25.

Chances are good that some additional small track could be found along the back edge of the tile since many small one were found near the front. This tile comes from the busy corner of the tray where the many small, slightly off angle tracks have been found.